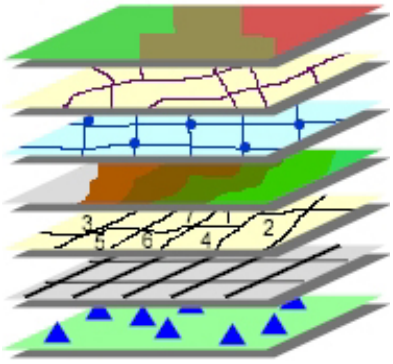
7 How GIS Visuals Convey Information

Sample Map Layers



Zoning
Street Network
Utility Network
Topography
Tax Parcels
NC State Plane Grid
Geodetic Control

Sample Associated Data

Zoning Code, Link to Ordinance Text
Name, Address Ranges, Length, Speed Limit, Travel Time
Pipe Size, Pipe Material, Pipe Length, Valve Location
Elevation
Owner, Address, Land & Buidling Value, ID, Area, Permits
Grid Number
X and Y Survey Coordinates

This brochure produced by:

City of Burlington, GIS Division
425 South Lexington Avenue
Burlington, North Carolina 27215
ph 336.222.5110
fx 336.513.5410

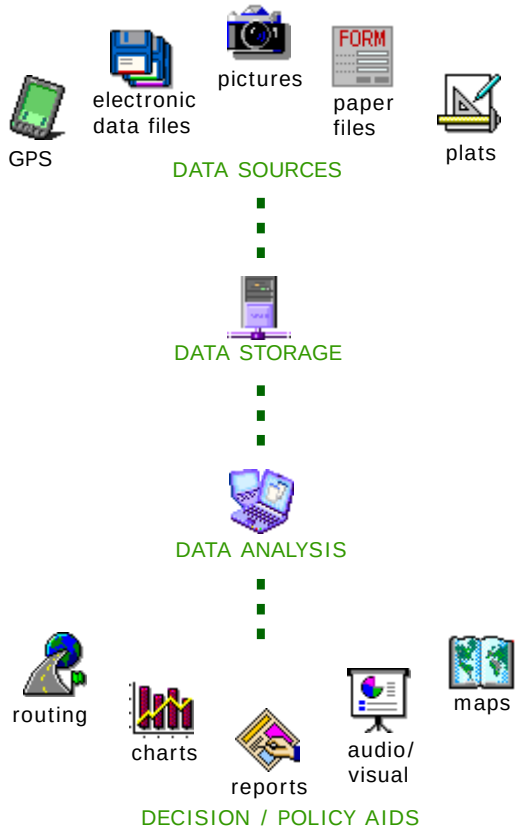
http://www.ci.burlington.nc.us/planning/divisions/gis

An Introduction to Municipal Geographic Information Systems

7 What is GIS?

Since GIS is still an emerging technology, five GIS experts would likely provide you with five different definitions. However, in local government, GIS may be summarized as follows:

GIS brings geographic data from surveys, plats, spreadsheets, GPS units and paper files together within a computer network that is available to employees, officials and citizens for the generation of visual maps and reports; for tracking permits, fees and licenses; and for modeling, projecting and analyzing geographic data trends.



Although the roots of GIS are found in cartography, today's GIS field is much more than simple automated map-making. In fact, part of the difficulty in defining GIS is due to the fact that it is incorporating and enveloping many capabilities that once were separate fields of study. Some of these fields include:

- Statistics
- Network Analysis
- Computer-Assisted Design (CAD)
- Automated Mapping/Facilities Mapping (AM/FM)
- Geocoding/Global Positioning Systems (GPS)
- Database Management Systems (DBMS)
- Land Information Systems (LIS)

So what are local governments really using GIS for? Here is a sampling:

- @ Land-use and urban planning
- × Permit tracking
- @ Infrastructure planning and management
- Õ Transportation planning and management
- : Crime tracking
-) Taxation analysis and record-keeping
- 8 Emergency management and response
- - Public information services
- a Bus routing
- D Economic development planning
- * Districting
- ó Public health risk analysis
- _ Site selection

7 Why GIS?

; Citizens are increasingly demanding better information showing that public policy decisions will result in greater efficiency, equity, community viability and environmental health.

; At least 70 to 80 percent of the average local government's work involves land or geographically related issues or tasks.

Geographically related items that local governments deal with regularly:

- É Land Use Zones
- É Tax Parcels
- É Street Addresses
- É Water Meters
- É Sewer Manholes
- É Water and Sewer Lines
- É Pavement Markings
- É Fire Hydrants
- É Crime Scenes
- É Signs....

; Local government is responsible for the long-term health, safety and welfare of its citizens, and many issues cannot be boiled down to a simple calculation of short-term costs and benefits. GIS enhances the ability of local governments to look at the long-term effects of possible decisions.

; Visual GIS displays allow more people to understand issues and the large amounts of information associated with them.

Turn for illustration